Practise Questions: Metric Conversion

1. $6.38\ 10^{2}$ nm = _____ m
2. 18.3 µg = _____ g
3. 5.6 cg = _____ g
4. 6.89×10^{7} kg = _____ mg
5. 100 Mg = _____ kg
6. 16.27 hm = _____ m
7. 22 cm = _____ dm
8. 18.6 L = _____ µL
9. 16.1 cg = _____ hg
10. 1.69×10^{7} mmol = _____ mol
11. 22.3 mol = _____ mmol
12. 16.2 mL = _____ cm^3
13. 8.6×10^{7} L = _____ mL = _____ cm^3
* 14. 12 cm^3 = _____ dm^3
* 15. 227 cm^3 = _____ mm^3

14. $1.2 \times 10^{-2}\ dm^3$
15. $2.27 \times 10^{5}\ mm^3$

(1) $6.38 \times 10^{2}\ nm \times \frac{1\ m}{10^{9}\ nm} = 6.38 \times 10^{-7}\ m$

(2) $18.3\ \mu g \times \frac{1\ g}{10^{6}\ \mu g} = 1.83 \times 10^{-5}\ g$

(3) $5.6\ cg \times \frac{1\ g}{10^{2}\ cg} = 5.6 \times 10^{-2}\ g$

(4) $6.89 \times 10^{7}\ kg \times \frac{10^{3}\ g}{1\ kg} \times \frac{10\ mg}{1\ g}$

$= 6.89 \times 10^{13}\ mg$

Challenge

(5) $100\ Mg \times \frac{10^{6}\ g}{1\ Mg} \times \frac{1\ kg}{10^{3}\ g} = 1.00 \times 10^{5}\ kg$

(6) $16.27\ hm \times \frac{10^{2}\ m}{1\ hm} = 1.627 \times 10^{3}\ m$

(7) $22\ cm \times \frac{1\ m}{10^{2}\ cm} \times \frac{10^{1}\ dm}{1\ m} = 2.2\ dm$

(8) $18.6\ L \times \frac{10^{6}\ \mu L}{1\ L} = 1.86 \times 10^{7}\ \mu L$

(9) $16.1\ cg \times \frac{1\ g}{10^{2}\ cg} \times \frac{1\ hg}{10^{2}\ g} = 1.61 \times 10^{-3}\ hg$

(10) $1.69 \times 10^{7}\ mmol \times \frac{1\ mol}{10^{3}\ mmol} = 1.69 \times 10^{4}\ mol$

(11) $22.3\ mol \times \frac{10^{3}\ mmol}{1\ mol} = 2.23 \times 10^{4}\ mmol$

(12) $16.2\ mL = 16.2\ cm^3$

(13) $8.6 \times 10^{7}\ L \times \frac{10^{3}\ mL}{1\ L}$

$= 8.6 \times 10^{10}\ mL$

$= 8.6 \times 10^{10}\ cm^3$